Version Marked-Up to Show Changes Made:

In the Specification:

Paragraph 0012 is amended as follows:

[0012] Still further provided is a magnetic tape medium, wherein the magnetic tape medium comprises a first user data section and a second user data section. The first user data section comprises a faster access storage space than the second user data section. A first set of data to be written [at a faster rate] with less access delay than a second set of data is written to the first user data section and the second set of data is written to the second user data section.

Paragraph 0019 is amended as follows:

[0019] In accordance with SCSI tape commands, the host application 22 would write data records sequentially to the tape drive 20. To retrieve data records, the host application 22 would read data sequentially from the magnetic tape [20] 4. To access data randomly from the magnetic tape 4, the host application 22 could send the SCSI SPACE and LOCATE commands to the tape drive [20] 10 to request a data record at an offset from the last record read from the magnetic tape 4. The host application 22 would use the SPACE command to instruct the tape drive 10 to set a new logical position relative to the current logical position, which is determined from the last data record returned by the tape drive 10. The SPACE command specifies a count field indicating the number of blocks (or filemarks) to move forward (if positive) or backward (if negative). The host application 22 would use the LOCATE command to instruct the tape drive 10 to position the magnetic tape 4 to the specified logical element at the specified position.

Paragraph 0023 is amended as follows:

[0023] FIG. 4 illustrates further details of the data structures in the cartridge memory 6, including initialization data indicating the longitudinal position of all the logical points, including LP1, LP2, LP3, LP4, LP3', LP4', LP5, LP6, and LP7. The tape drive controller 12 would use the initialization data 70 to determine the start and end of each of the user data sections 50 and 52. The cartridge memory 6 further includes a table directory 72 that includes entries for each of the wrap sections. As discussed, in implementations where there are two separate user data sections 50 and 52, the 96 possible wrap sections would be divided between these two user data sections. Thus, each wrap in the user data sections 50 and 52 would comprise a wrap section. For each of the wrap sections listed in the table directory 72, the wrap section entry may specify:

Data Set ID: specifies the Data Set Identity of the last Data Set written in this wrap section. If this wrap section does not contain valid Data Sets, then this field shall be set to [(0x0FFFFFFFF)] (0xFFFFFFFF).

Record Count: If this Wrap Section is valid, this field shall contain the number of Records that are started in the current Wrap Section. If the Data Set ID of this Wrap Section is [(0x0FFFFFFFF)] (0xFFFFFFFF) and hence this Wrap Section is invalid, the Record Count field is not defined for interchange.

File Mark Count: If this Wrap Section is valid, this field shall contain the number of File Marks that are within the current Wrap Section. If the Data Set ID of this Wrap Section is [(0x0FFFFFFFF)] (0xFFFFFFFF) and hence this Wrap Section is invalid, the File Mark Count field is not defined for interchange.

CRC: This field shall specify the CRC generated for the wrap section data in the table directory 72.

Paragraph 0026 is amended as follows:

[0026] In one implementation, the prior art LTO tape layout format of FIG. 1 may be modified

to format the tape layout format of the described implementations of FIG. 3. For such implementations, to define the second user data section 52, LP3' may be set to a fixed value, such as 0.50 meters beyond LP4 so long as LP3' is less than LP5. The LP5 point in the prior art LTO Ultrium format (FIG. 1) then becomes LP4', and LP3 to LP5 can be 580 meters on a Type A LTO cartridge. Thus, if LP4 is set to LP3 plus 79.5 meters, then LP3 plus 79.5 meters plus 0.5 meters equals LP3 plus 80 meters. This provides two user data sections, one of 79.5 meters and the other of 500 meters, with a 0.5 meter section 54 (FIG. 3) separating the two user data sections 50 and 52. A third user data section would require that the length of LP4' is less than LP5 to allow the definition of [LP3' and LP4'] LP3" and LP4" for the third user data section between LP3 and LP5.

Paragraph 0031 is amended as follows:

[0031] FIG. 7 illustrates an additional serpentine pattern implementation that minimizes the distance to seek when writing data to the 49th wrap section (wrap section 48). In the serpentine pattern of FIG. 7, the tape drive writes in a serpentine pattern, alternating in the forward and backward direction between LP3 and LP4 for the first 47 wrap sections, e.g., wrap sections 0 through 46, which is the same pattern in FIG. 6 for the first 47 wrap sections. However, the pattern of FIG. 7 differs from FIG. 6 in that upon reaching the end of the 47th wrap section (the end of wrap section 46), the tape drive moves from LP4 to LP3' and then starts writing in a serpentine pattern, alternating between the forward and backward direction between LP3' and LP4' in the second user data section 52. This alternating pattern continues from wrap sections [48] 47 through 94. There is a last possible wrap section 95, which can be written in the backward direction in the first user data section 52 from LP4 to LP3. This last wrap section 95 may not be usable in certain implementations where shingled writing is used and where the first data section is to be written second. Thus in certain implementations, the last possible wrap section 95 may not be used.

Paragraph 0032 is amended as follows:

[0032] The serpentine pattern of FIG. 7 improves the write performance when writing to wrap sections between the first 50 and second 52 user data sections by avoiding the need to seek from LP3 to LP3' when starting to write wrap section [48] 47 at the beginning of the second user data section 52. Instead, with the serpentine pattern of FIG. 7, the tape drive needs only seek 0.5 meters when moving from the end of the first user data section 50 to the beginning of the second user data section 52. This is a performance improvement over the serpentine pattern of FIG. 6, which requires that the tape drive seek 80 meters when moving from the end of the first user data section 50 to the beginning of the second user data section 52.

Paragraph 0033 is amended as follows:

[0033] Because the second user data section 52 is at a length of tape that is beyond the first user data section 50, the seek time from the beginning of the tape takes longer. Because the user data section 50 is shorter than is the user data section 52, the average seek time from one point in user data section 50 to another in user data section 50 is shorter than from one point in user data section 52 to another point in user data section 52. Thus, from the beginning of the tape or for movements within a wrap section, the first user data section 50 is faster than the second section 52 because the second section 52 follows the first section 50, and the first section is shorter. Accordingly, data that is more frequently accessed could be placed in the faster access first user data section [52] 50.

In the Abstract:

The Abstract is amended as follows:

Provided is a method, system, and program for storing data in a storage medium. A layout of a storage medium including a first and second user data sections is provided, wherein

the first user data section comprises a faster access storage space than the second user data section. A determination is made of a first set of data to be accessed [at a faster rate] with less delay than a second set of data. The first set of data is written to the first user data section and the second set of data is written to the second user data section.

In the Claims:

Claims 1, 21, 27, 35, 37, 38, 45, 47, 57, 58, and 65 are amended as follows:

1. (Amended) A method for storing data in a storage medium, comprising:

providing a layout of the storage medium including a first and second user data sections, wherein the first user data section comprises a faster access storage space than the second user data section;

determining a first set of data to be accessed [at a faster rate] with less delay than a second set of data;

writing the first set of data to the first user data section; and

writing the second set of data to the second user data section.

21. (Amended) A tape cartridge including a magnetic tape medium, wherein the magnetic tape medium comprises:

a first user data section; and

a second user data section[s], wherein the first user data section comprises a faster access storage space than the second user data section, wherein a first set of data to be [written] accessible [at a faster rate] with less access delay than a second set of data is written to the first user data section and wherein the second set of data is written to the second user data section.

27. (Amended) A system for storing data, comprising:

a storage medium;

means for providing a layout of the storage medium including a first and second user data sections, wherein the first user data section comprises a faster access storage space than the

second user data section;

means for determining a first set of data to be accessed [at a faster write] with less access delay than a second set of data; and

means for writing the first set of data to the first user data section and for writing the second set of data to the second user data section.

35. (Amended) The system of claim [35] 34, wherein the means for writing the first and second sets of data further performs:

writing data to wrap section 2*n from the end to the beginning points of the first user data section.

37. (Amended) The system of claim [32] 27, wherein the first user data section is located closer to a beginning of the tape medium than the second user data section.

38. (Amended) The system of claim [37] 27, wherein data in a non-volatile memory in a cartridge including the magnetic tape medium indicates beginning and end longitudinal positions on the tape medium of the first and second user data sections.

45. (Amended) The system of claim [44] 41, wherein the first user data section is located closer to a beginning of the tape medium than the second user data section.

47. (Amended) An article of manufacture including code for storing data in a storage medium by:

providing a layout of the storage medium including a first and second user data sections, wherein the first user data section comprises a faster access storage space than the second user data section;

determining a first set of data to be accessed [at a faster write] with less delay than a second set of data;

writing the first set of data to the first user data section; and

writing the second set of data to the second user data section.

57. (Amended) The article of manufacture of claim [52] <u>47</u>, wherein the first user data section is located closer to a beginning of the tape medium than the second user data section.

58. (Amended) The article of manufacture of claim [57] <u>47</u>, wherein data in a non-volatile memory in a cartridge including the magnetic tape medium indicates beginning and end longitudinal positions on the tape medium of the first and second user data sections.

65. (Amended) The article of manufacture of claim [64] <u>61</u>, wherein the first user data section is located closer to a beginning of the tape medium than the second user data section.